Report to WA State Health Information Infrastructure Advisory Board (HIIAB) SSB 5064

Health Information Technology.
Local landscape, opportunities, and challenges.

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Presentation Outline

- Introductions
- HIT frameworks and definitions
- Overview of Health IT in the region
- Key Challenges
- Critical Success Factors
- Discussion

Key Goals of this effort

- **Perceived "value of HIT":**
  - Improve the quality of care
  - Improve the health outcomes for people
  - Slow the rate of increase in health care expenditures
  - Improve consumers' and health care professionals' ability to be involved in managing health

- **Overarching goals of the committee:**
  - Understand the current level of HIT and HII adoption and key barriers
  - Identify and develop consensus on a "target" for the future HIT and HII
  - Recommend to the Legislature key actions that the state can perform to assist

- **Goals of this Presentation:**
  - Provide a "snapshot" of current HIT adoption and usage in Washington State.
  - "Snapshot" is based on:
    - Existing surveys and formal data that has been gathered
    - Firsthand knowledge of goals and strategies of many of the key organizations in the region,
    - Several supplement interviews and discussions over the past few months
  - Identify obstacles to increased adoption and insights into critical success factors

Summary Observations – HIT adoption in WA State

- IT has been had a long standing “intra”-enterprise focus. Many disparate systems and few data standards exist.
- Health IT is just now emerging. EMRs are far from common and the definition of what an EMR should do is still quite varied.
- Claims based data flow across enterprises is increasingly becoming easier, HIPPA has helped with this.
- Clinical data flow is isolated to only a few types of data and overall this is done only in informal and or non-standard ways.
- Communities that have more robust data sharing are accomplishing this by relying on a dominate institution and system to provide the “leadership”, and “technical capabilities”. Many rely, at least initially, on a single vendor system.
- Several organizations are involved in clinical data exchange discussions and a few are moving forward. Tend to be locally based without much thinking about a regional or state-wide approach.
- “Interest” in providing access to clinical information but don’t necessarily feel a “burning need” to do so. Clinicians have a widely varied opinion on the value of Health IT. It will take years to sway some opinions.
- Many barriers exist. No compelling strategic driver, funding, lack of standards, few incentives, misalignment of costs/benefits, relatively immature technology/obsolesce fear.

Definitions, frameworks, and important reminders:

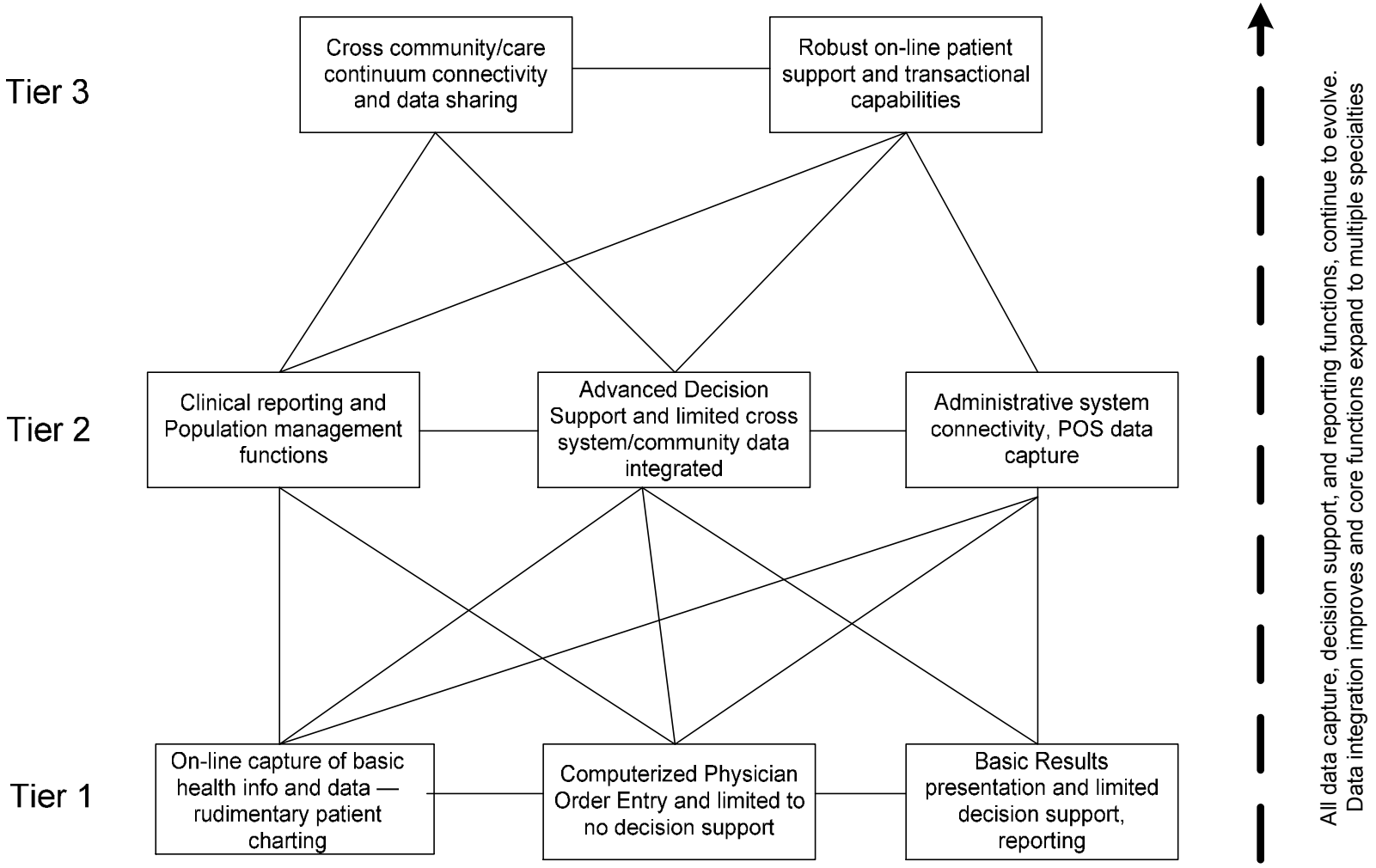
- Intra-enterprise HIT and HII vs. cross continuum perspectives. This is IMPORTANT!

- HIT can be expressed using a traditional e-business framework – "the 3 Cs":
  - Digitized ***Content***
  - ***Connectivity*** among industry participants (and patients)
  - ***Community*** (Governance, aligned interests, agreement on standards, etc…)

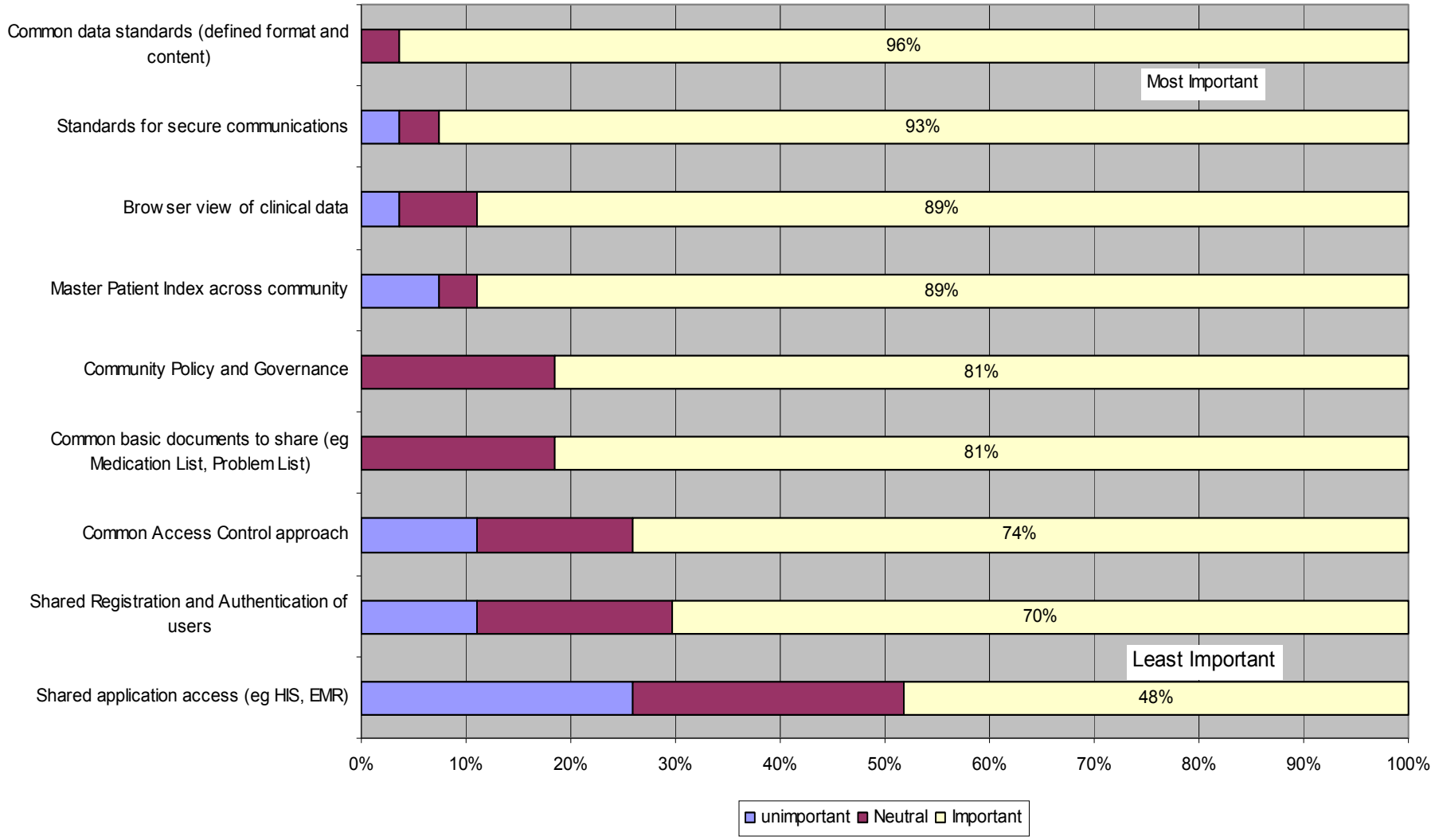
- Interoperability is evolutionary not revolutionary -- we must look to stages of development over time.
  - **Level 1: Non-electronic data.** Examples include paper, mail, and phone based info transfer.
  - **Level 2: Machine transportable data.** Examples include fax, email, presentation portals, and unindexed documents.
  - **Level 3: Machine organizable data** (structured messages, unstructured content). Examples include indexed (labeled) documents, images, and objects.
  - **Level 4: Machine interpretable data** (structured messages, standardized content). Examples include the automated transfer from an external lab of coded results into a provider's EHR.

- HIT needs varies by healthcare setting and disease state/specialty.

HIT - based on IOM framework



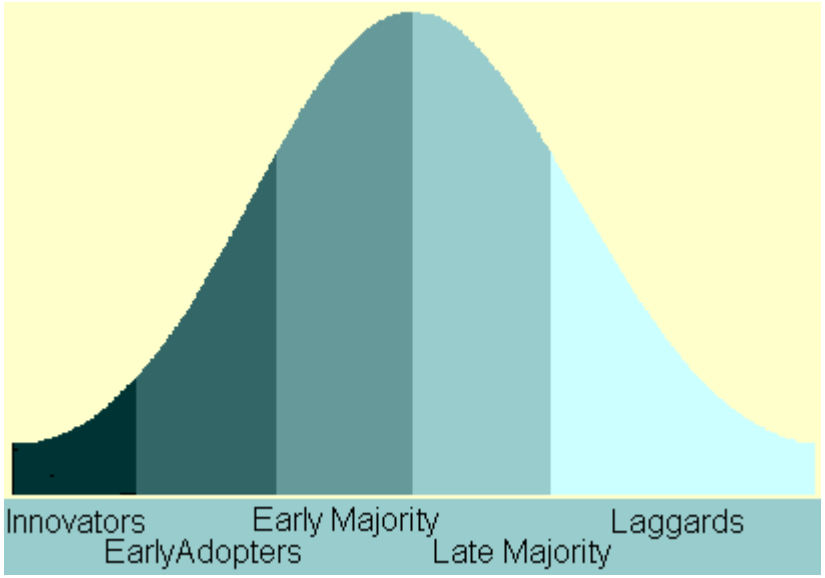
WHFS/OHP survey: Participants ranking of top areas to address



So, where are we with HIT?

Well, it depends!

1. Definition of HIT.
2. Your perspective: Intra vs. extra enterprise
3. Type of practice.
4. Type of HIT and HII.



Rogers Diffusion of Innovation Theory:

1. **Innovators** less 2.5 percent.
2. **Early adopters** 13.5 percent
3. **Early majority** 34 percent - deliberately ahead of the curve and willing to make safe investments.
4. **Late majority** 34 percent to the right is skeptical
5. **Laggards** 16 percent

Clinical data capture within the provider enterprise.

- Overall, WA state is at an ***early adopter*** phase of clinical data capture.
- Several leading organizations are setting the pace but vast majority of small physician practices are not on an implementation roadmap.

Digitized clinical content:

- Large "closed" Integrated Systems: GHC, Kaiser are well down the HIT path, e.g. level 3 of the IOM framework.
- Hospital systems and affiliated physician practices: Larger systems have mature systems, robust development plans and are capturing much of their clinical care. Many have developed portals for their physicians and are e-enabling their internal systems.
- Smaller rural and stand alone hospitals: Historical ADT systems and some have limited capture of inpatient notes. Few have developed portals or electronic methods of sharing the information.
- Larger group practices: Most of the state's larger group practices, plus those practices owned by larger hospital systems have or will soon have EMRs. Few have progressed past the basic steps within level 1 of the IOM model (data capture/display). Complete CPOE and integrated decision support is the next hurdle for the these practices.
- Ancillary providers (Pharmacies, labs, home health, etc.): Most have automated systems which are central to their business. Few comply with standards and interoperability with other providers is a one-by-one interfacing challenge.
- Small to mid-sized Physician practices are at the Early Adopter stage for EMRs. This group is by far the largest portion of our delivery system, approximately 50% of all physicians.
  - A few MSOs and IPAs are beginning to provide leadership/support, ASP EMRs, and connectivity wit others.
  - Few small practices have IT expertise, or can afford the $$$ and focus to implement EMRs.
  - Single greatest threat to the larger HIT "vision" – we need to drive this to a "tipping point"

Estimated level of adoption by type of HIT application – Largest Physician Enterprises

	EMR in place	Results display	CPOE	Decision Support	Patient Access	Community Access
Group 1	Yes	Yes	No	No	No	Limited
Group 2	No	No	No	No	No	No
Group 3	Yes	Yes	Limited	Limited	No	Limited
Group 4	No	No	No	No	No	No
Group 5	2006	TBD	TBD	TBD	TBD	TBD
Group 6	2006	TBD	TBD	TBD	TBD	TBD
Group 7	2007	TBD	TBD	TBD	TBD	TBD
Group 8	2007	TBD	TBD	TBD	TBD	TBD
Group 9	Yes	Yes	Limited	No	No	Limited
Group 10	Yes	Yes	Yes	Limited	Yes	Limited
Group 11	Yes	Yes	Limited	No	No	Limited
Group 12	No	Limited	No	No	Limited	Limited
Group 13	Yes	Yes	Limited	No	No	No
Group 14	Yes	Yes	Limited	Limited	No	Limited
Group 15	2007	TBD	TBD	TBD	TBD	TBD
Group 16	2007	TBD	TBD	TBD	TBD	TBD
Group 17	2007	TBD	TBD	TBD	TBD	TBD
Group 18	Yes	Yes	Limited	No	No	Limited
Group 19	Yes	Yes	Limited	No	No	Limited
Group 20	Yes	Yes	Limited	Limited	No	No
Group 21	Yes	Yes	No	No	No	No
Group 22	Yes	Yes	Limited	No	No	Limited
Group 23	Yes	Yes	No	No	No	No
Group 24	Yes	Yes	No	No	No	No
	88%	**63%**	**42%**	**16.7%**	**8%**	**42%**

- Represents approximately 2,700 physicians, 25% of WA state physicians.
- Many report to using HIT but type of use varies considerably.
- WSMA's e-survey of 180 physicians (small practices) indicated that approximately 40% had an EMR or another electronic charting tool. Other estimates are much lower.

Connectivity, Community, and basic HII

- Overall, WA state is at an ***innovator*** phase of cross community connectivity/data exchange. We have a long way to go….
- Several leading communities/organizations are setting the pace but vast majority of communities are only beginning the discussion phase of this endeavor.
- Individual enterprises have no compelling reason to accelerate this activity over higher priority internally oriented work
- None have reached level 3 of the IOM continuum across their community.
- **Each are taking different paths to their vision.**

- **Connectivity and basic HII utility:**
  - By definition this aspect of HIT is **not** isolated to an "intra-enterprise view"
  - Prime examples of the **early adopters** of community infrastructure and or community-based advances:
    - Spokane – INHS Widespread network, applications, and integrated security system. Mature governance and strong participation. IPA sponsored EMRs and others coming together..
    - Whatcom County – HiNet, CHIC, Pursuing Perfection-Shared Care Plan, e-Rx pilot, community applications, focused workgroups.
    - Yakima – ChartConnect powered community. Lab data, EMR, hospital data.
    - NPN and Pierce County community - Internet based network with connectivity infrastructure, MPI/push technology and planning some clinical applications. Implementing governance/funding processes and developing vision/development plan.
    - OneHealthPort – Cross community identity management and authentication utility. Medication History project underway.
    - Several other community based connectivity networks with varying levels of clinical data capture/exchange.

- State-level barriers:
  - No burning platform: No competitive threats or strategic drivers for organizations. Intra-enterprise focus consumes most of the energy. In many cases the players are only beginning to capture data which could be shared.
  - Lack of an MPI – some say it is not needed.
  - Data standards – disparate legacy systems that are unlikely to interoperate (content and data structure issues)
  - Funding – collaboration takes time and can be expensive, slow to progress
  - Knowledge transfer about successes, learning, and approaches. Some do not know where to begin.

WA State's HII level of readiness

HII attribute	Level of adoption/readiness
Directory Services. Community MPI or matching algorithms	At ***Innovator*** stage. Isolated proofs of concept or proprietary to integrated legacy systems.
Data Standards. (content and message structure)	At ***Innovator*** stage. Some national standards being developed or at proof of concept. Most existing data is proprietary to legacy systems.
Disease registries.	At ***Early Adopter*** stage. Few are connected across the local community. Many exist and could be patched together if there were value in doing so.
Security and Privacy management: ▪ Identity Management/Authentication ▪ Access Control and audits ▪ Secure communication conduits	Overall is available and can be leveraged. ▪ Available in the marketplace ▪ Available within legacy applications or via add on apps. ▪ Generally available
High speed data networks	Readily available in all but the most rural locations
Basic computing infrastructure	Readily available in most facilities and practices. Specific system requirements may force upgrades in some cases.

Key Findings:

- Standards are being developed on a national basis: HL7, Snomed, Loinc, CCR, ELINCs, CCHIT, ….. Our challenge is local implementation, commitment to these standards, and focusing on the most important ones first.
- Large organizations are making intra-enterprise progress. Very little progress across the community.
- One of the biggest barriers to increased HIT adoption seems to be financially oriented. This is especially prevalent in the smaller physician offices where the total costs of EMRs are essentially beyond their means. The following barriers are also prevalent:
  - No apparent return on the investment, just added costs
    - Many physicians believe they are already providing top notch quality and safety and not sure how the HIT investment would help them. Some naysayers actually providing "proof" that in some cases quality/safety may be at risk with less than perfect applications.
    - Lack of a comprehensive and conclusive plan that demonstrates how and which specific applications will in fact deliver on the quality/safety/efficiency promise.
    - No other compelling strategic needs or competitive threats forcing the investment.
  - Lack of knowledge on where to start, what to buy, how to implement and what else is involved
  - Belief that the cost will come down later and that the functionality will only improve, so just wait.
  - Unwillingness to re-engineer workflows. This is a key step to achieving ROI.
  - Impacts to provider productivity during the transition is a large burden to a small practice.
  - Total system costs. New equipment, network infrastructure, back up systems, IT staff, and other associated infrastructure costs are financially and intellectually daunting.
  - Privacy and Security of electronic data. Breaches have significant financial implications.
- Burdensome to develop data sharing agreements and lack of standards slows interoperability to a virtual stand still.

Challenges and key barriers?

- Getting physicians to adopt EMRs. Need to get this segment to Roger's "early majority" stage. To do this we must solve the barriers previously listed.
- Data standards are not already embedded within existing systems. Even once "the" final standard is agreed upon, it will take years to achieve true interoperability. This is true of both vendor supported and customized systems.
- Getting access to the data/community infrastructure:
  - Creating the business case for doing this. The costs/benefits are misaligned.
  - Assuring privacy and protection across the continuum.
  - Managing the competitive dynamic.
- Competition, collaboration and avoiding coercion

Other Industry Lessons and Critical Success factors

- **Obtain executive sponsorship of critical mass organizations. Be wary of the free rider problem – I want it if somebody else pays for it.**
- **Put business people in charge first, then support them with IT experts.** DO NOT START WITH A TECHNICALLY ORIENTED PLAN!
- **Develop a communication strategy.**
- **Do a systems check.** Know the underlying networks and technologies. Knowing the infrastructure problems in advance will prevent missteps.
- **Define "as-is" and "to-be" processes and involve the staff.** Be clear on what is now vs. future and how it will phase in.
- **Support national and regional standards avoid one offs.**
- **Ride on other innovators and avoid duplication.**
- **Need a "Swiss" governance model**, a politically neutral support organization and governed by the whole.
- **A single large data repository is an untenable solution**, trusted third party to link various community solutions/individual parties so data can be accessed through shared hub.
- **Start small** -- CCR & PHR will be key to long term success